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Notice of Allowability	Application No.	Applicant(s)	
	10/800,190	HASELDEN ET AL.	
	Examiner	Art Unit	
	Lisa Kilday	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/12/4.
 2. ☒ The allowed claim(s) is/are 1-11.
 3. ☒ The drawings filed on 12 March 2004 are accepted by the Examiner.
 4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>3/4</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|---|

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Park on 9/1/04.

The application has been amended as follows:

Amend the following claims 4 and 9.

Claim 4: change "20:1" to --15:1--.

Claim 9: after, "is between", insert --greater than--.

The reasons for the examiner's amendment are to clarify the overlapping ranges of the flowrate ratios between 15:1 and 20:1. If the claims contained overlapping ranges, any flowrate ratios falling between 15:1 – 20:1 would read on the instant claims because only one teaching would be necessary to overcome the shared first and second flowrate ratios. This amendment is supported by the values found in Table I of the instant specification.

The following is an examiner's statement of reasons for allowance: In re claims 1-10, Chien et al. (5,643,824) teaches in figs. 1-2 a method of manufacturing a gate structure over a substrate comprising: providing a Silicon oxide layer (12); providing a Silicon nitride layer (16) over the Silicon oxide layer, providing a first gas flow including a first gas flow having a first ratio of fluorine to carbon atoms (col. 4, lines 55-57);

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applying a plasma to said first gas flow to create a first plasma and etching a first portion of said Silicon nitride with said first plasma (col. 4, lines 63-65). However, prior art does not teach or suggest a second gas flow including a second ratio of fluorine atoms to carbon atoms where the second ratio is greater than said first ratio to form the Silicon nitride spacer.

In re claim 11, Chien et al. (5,643,824) teaches in figs. 1-2 a method of manufacturing a gate structure over a substrate comprising: providing a Silicon oxide layer (12); providing a Silicon nitride layer (16) over the Silicon oxide layer, providing a first gas flow of CF₄ (col. 4, line 43) to CHF₃ flow rate (col. 4, lines 55-57); applying a plasma to said first gas flow to create a first plasma and etching a first portion of said Silicon nitride with said first plasma (col. 4, lines 63-65). However, prior art does not teach or suggest including the limitation of CH₂F₂ as part of the first gas flow. Nor does prior art teach or suggest the limitations above combined with: a second gas flow including a second ratio of CF₄ to CH₂F₂ where the second ratio is greater than said first ratio to form the Silicon nitride spacer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0957. See MPEP 203.08.

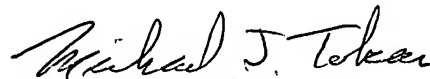
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Any inquiry concerning this communication from the examiner should be directed to Lisa Kilday whose telephone number is (571) 272-1962. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar, can be reached on (571) 272-1812. The fax number for the group is (703) 872-9306. MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

Lisa Kilday

LAK 

9/2/04



Michael Tokar
Supervisory Patent Examiner
Technology Center 2800